

**Consumers Energy**

**Customer**

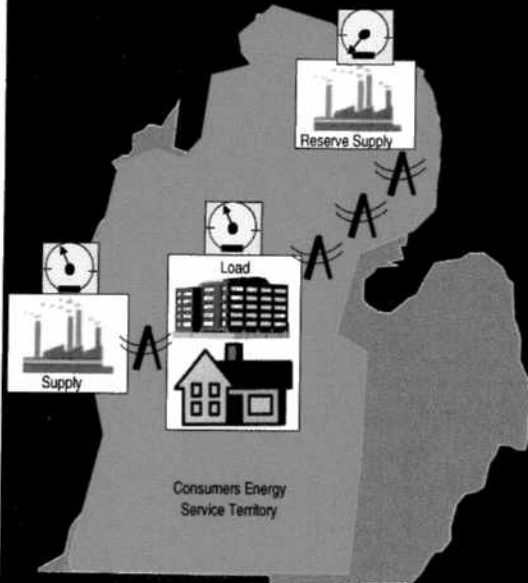
***House Energy and Technology  
Committee Briefing***

*Midwest ISO*

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Electric & Gas Supply  
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***Basics***

***Local System Operations***

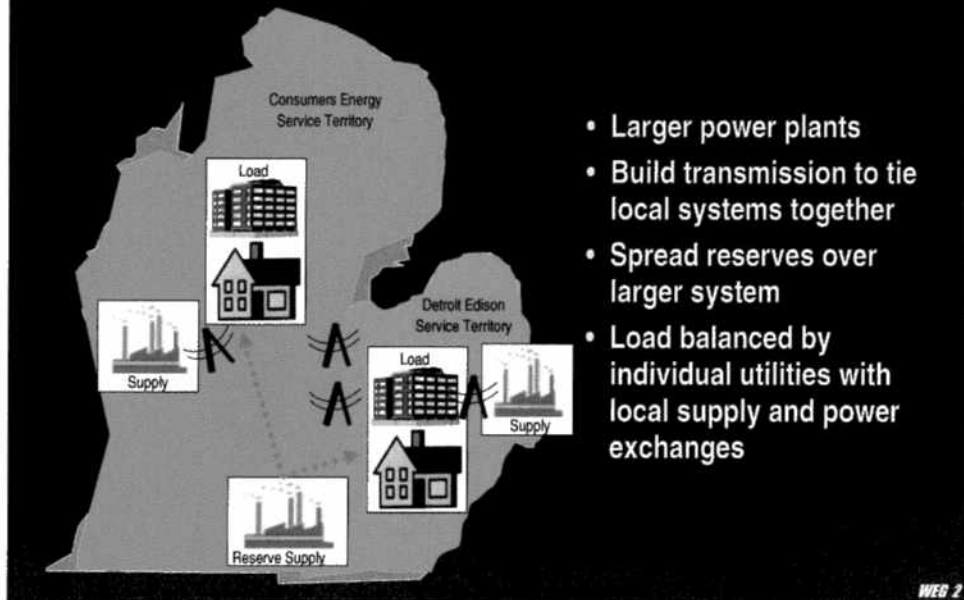


- Local stand-alone systems
- Essential to balance supply and customer load
- Maintain frequency
  - Avoid equipment damage
  - Maintain grid integrity
- Reserve capacity to cover failures and maintenance

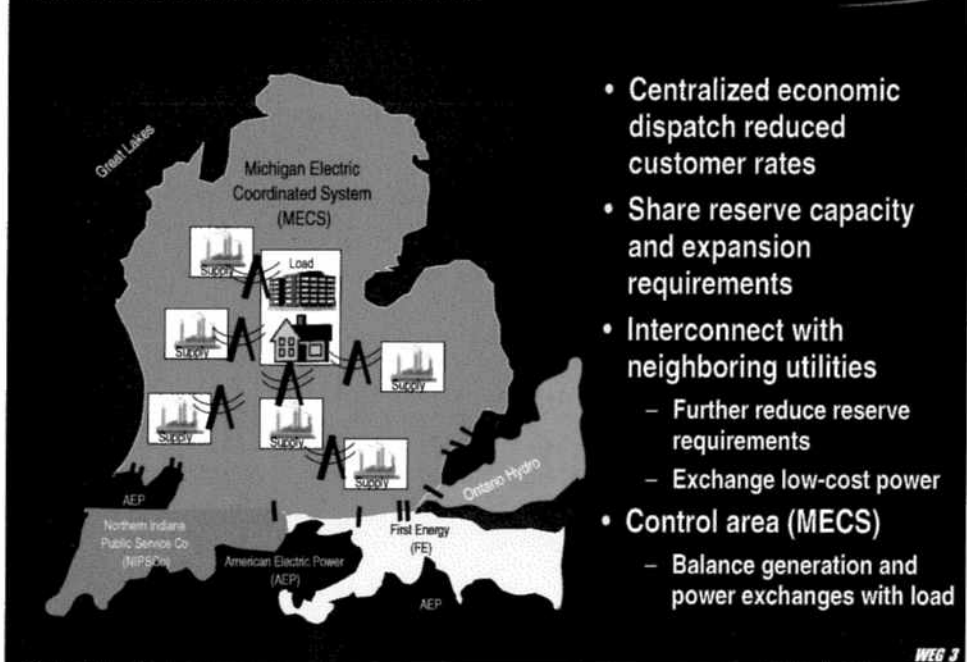
WEG 1

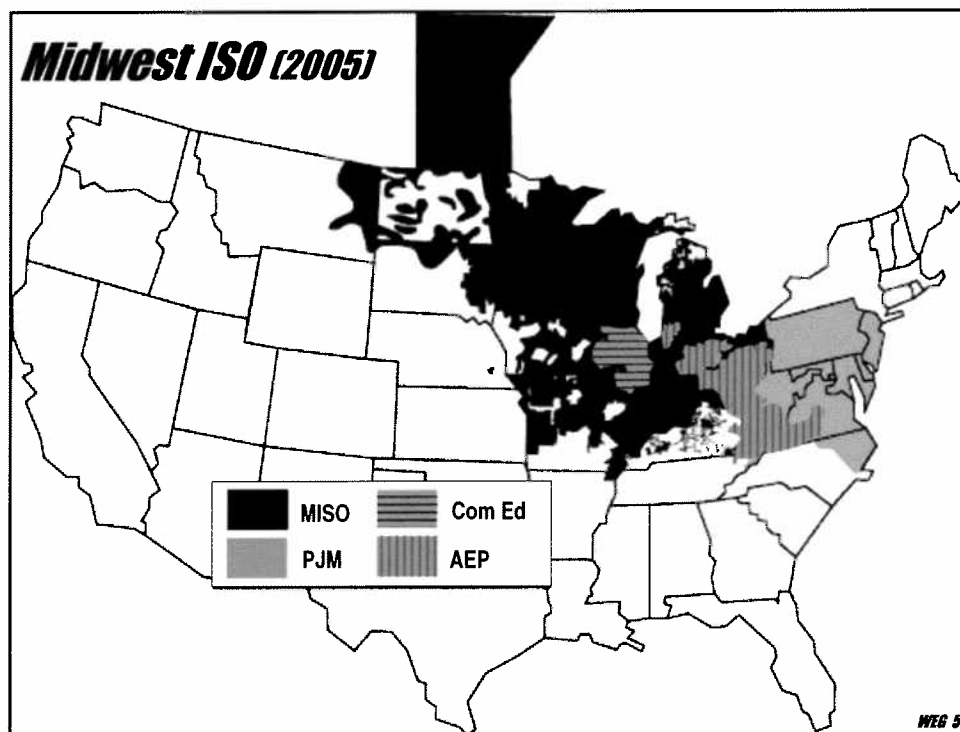
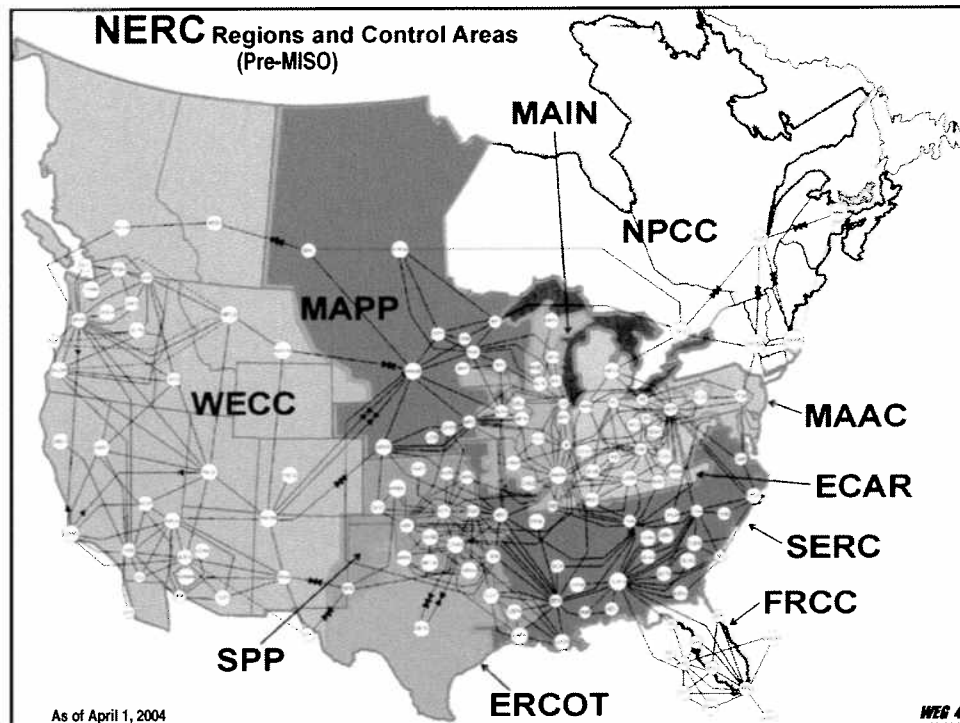
## Basics

### Interconnects Develop



## MECS Control Area (1968)





## ***Midwest ISO Goals***

- Ensure equal access to the transmission system
- Enhance regional *Reliability* and *Economics*
  - MISO footprint perspective
  - Centralized coordination of transmission operations
  - Centralized economic dispatch of generation
- Theory is good
  - Reality has been a little bumpier



WEG 6

## ***The MISO Energy Market***

- Sell all generation into MISO and purchase all customer load requirements from MISO
  - Exposed to market conditions if generation and load don't balance
  - Pay for transmission congestion

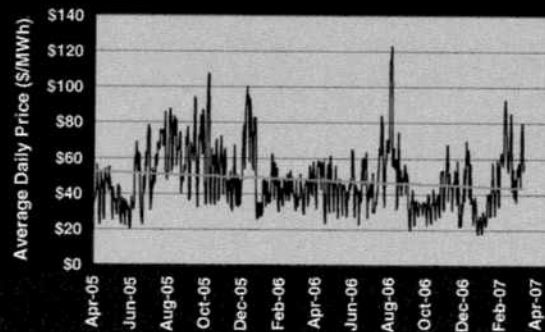


WEG 7

## *Utility and Customer Perspective*



- Complex operations and billing systems
- Declining wholesale market prices
- Solid reliability – direct contribution to Michigan



WEG